

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, the claims have been amended for clarity.

The Examiner has finally rejected claims 1-19 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,591,365 to Cookson in view of U.S. Patent 6,081,897 to Bersson and further in view of U.S. Patent 5,930,209 to Spitzenberger et al.

The Cookson patent discloses a copy protection control system in which two watermarks are inserted into music to be protected. One watermark is robust, i.e., it will not be destroyed by compression, while the other watermark is fragile and is designed to be destroyed by compression.

The Bersson patent discloses apparatus for monitoring and preventing unauthorized copying of digital data, in which a table of tracks is created identifying each track of a compact disc to be recorded with information about the track, including whether or not a flag serving as a copyright notice is contained in a control field of the track.

The Spitzenberger et al. patent discloses an optical disc with sector address irregularities to prevent copying, and apparatus for recording and detecting such copy protection, in which the sectors each has an address label, the address values of the address labels increasing linearly from the start of the disc or

from the start of the program area of the disc. The address label of specific sectors are given different, e.g., zero, address values, which prevents copying of the disc.

The subject invention also concerns the protection of digital information and for preventing the unauthorized copying of this digital information. To that end, the subject invention includes watermarking the digital information with watermark data, wherein if, on an attempted rendering of the digital information, the watermark data is missing or corrupted, then the rendering is prevented. However, Applicant has found that additional measures are needed to protect the digital information. To that end, as claimed in claims 1, 5, 10, 18 and 19, a track of the digital recording is divided into a number of track sections including a first track section and a last track section, and the watermark data is arranged to have at least one reserved bit corresponding to a position in each of the track sections. In addition, in the first and last track sections, the reserved bit in the watermark data is marked. Furthermore, each track section includes a sequence ID for identifying the sequential position of the respective track section in the track. When an attempt is made to render such a digital recording, the first and last track sections are identified and the watermark data is extracted (i.e., decoded) from the digital information in the first and last track sections. This extracted watermark data is then examined to determine if the reserved bit is

marked in the watermark data. In addition, the sequence ID's of all the track sections are examined to determine if the track sections are in sequential order.

The Examiner has indicated that the combination of Cookson, Bersson and Spitzenberger would have made it obvious to one of ordinary skill in the art (1) to insert a watermark in the digital information and to decode the watermark to determine if it has been tampered; (2) to place the watermark within the control field of each track because watermark and the control field are both used to detect whether a data is copy-protected; and (3) to check whether the address of sectors are arranged in correct order and the copy control information, such as watermark can be placed in the lead-in or lead-out section because they are used to determine whether copy protection is present.

Applicant submits that the Examiner has missed the point of the subject invention. In particular, in the subject invention, the watermark data appears in all of the track sections of the track, and not only in the control field or in the lead-in and/or lead-out sections. Further, the combination of Cookson, Bersson and Spitzenberger et al. neither shows nor suggests that the watermark data itself should be examined for anything other than to determine if the watermark data is absent or has been destroyed. In the subject invention, on the other hand, the watermark data extracted from the first and last track sections is analyzed to determine

whether the reserved bit, which appears in the watermark data in each of the track sections, has been marked in the watermark data extracted from the first and last track sections.

The Examiner now states "Spitz discloses that the address label is arranged preceding or succeeding a sector storing copy-protectable information (Spitz: column 2 lines 52-55). Therefore, it would have been obvious to one having ordinary skill in the art to arrange the reserved bit of watermark into the preceding and succeeding sector of copy-protectable information such as a track to determine whether the track is authorized for playback."


Applicant submits that inserting an address label in a track is completely different from a watermark mixed with a data signal having a marked reserve bit in a particular position in the first and second track sections. In particular, watermarking is performed such that it is ordinarily not detectable. Hence, the marking of a reserved bit in the watermark would not be ordinarily detectable. However, an address label inserted into a sector of the track is immediately detectable. The only way in which the marked reserved bit of the watermark data can be detected is to extract the watermark data and then examine the extracted watermark data.

Again, Applicant submits that the combination of Cookson, Bersson and Spitzenberger et al. neither discloses nor suggests extracting and examining the watermark data in the first and last track sections to determine if the reserved bit is marked.

In view of the above, Applicant believes that the subject invention, as claimed, is not rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicant believes that this application, containing claims 1-19, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by 
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